

What is claimed is:

5 (1.) A vertical cavity surface emitting laser, comprising:  
at least one quantum well having a depth of at least 40 meV and  
comprised of InGaAs;  
GaAsN barrier layers sandwiching said at least one quantum well; and  
GaAsN confinement layers sandwiching said barrier layers.

10 2. The vertical cavity surface emitting laser of claim 1 wherein said  
quantum well is up to and including 50 Å in thickness.

15 (3.) A vertical cavity surface emitting laser, comprising:  
at least one quantum well having a depth of at least 40 meV and  
comprised of InGaAs;  
GaAsN barrier layers sandwiching said at least one quantum well; and  
AlGaAs confinement layers sandwiching said barrier layers.

20 4. The vertical cavity surface emitting laser of claim 3 wherein said  
quantum well is up to and including 50 Å in thickness.

25 (5.) A vertical cavity surface emitting laser, comprising:  
at least one quantum well having a depth of at least 40 meV and  
comprised of InGaAs;  
AlGaAs barrier layers sandwiching said at least one quantum well;  
and  
GaAsN confinement layers sandwiching said barrier layers.

30 6. The vertical cavity surface emitting laser of claim 5 wherein said  
quantum well is up to and including 50 Å in thickness.